Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 121. (Currently amended) A method of visually detecting an analyte-recognition moiety complex, formed by an interaction between an analyte and a recognition moiety for said analyte, by transducing said interaction to an organic mesogenic layer, said method comprising:

(a) interacting said analyte with a patterned surface comprising said recognition moiety, thereby forming an analyte-recognition moiety complex, said surface comprising:

(i) a substrate;

(ii) a self-assembled monolayer bound to said substrate; and

(iii) said recognition moiety bound to said self-assembled monolayer;

(b) contacting said analyte-recognition moiety complex with said organic mesogenic layer, thereby anchoring said organic mesogenic layer onto said self-assembled monolayer and causing at least a portion of a plurality of mesogens proximate to said recognition moiety to detectably switch from a first orientation to a second orientation, thereby transducing said interaction to said mesogenic layer, said transducing causing said mesogenic layer to register a visually detectable feature; and

(c) visually detecting said feature.

Claim 122. (Previously presented) The method according to claim **121**, wherein said patterned surface comprises a patterned self-assembled monolayer.

Claim 123. (Previously presented) The method according to claim **121**, wherein said patterned surface comprises a patterned substrate.

Claim 124. (Previously presented) The method according to claim **121**, wherein said patterned surface is produced by a method which is a member selected from the group consisting of grooving, photolithography, photoetching, chemical etching, mechanical etching, microcontact printing and combinations thereof.

Claim 125. (Previously presented) The method according to claim **121**, wherein said patterned surface comprises features having a size of from about 1 micrometer to about 1 millimeter.

Claim 126. (Previously presented) The method according to claim **125**, wherein said patterned surface comprises features having a size of from about 200 nanometers to about 10 micrometers.

Claim 127. (Previously presented) The method according to claim **121**, wherein said patterned surface comprises at least one feature which is a member selected from the group consisting of wells, enclosures, partitions, recesses, inlets, outlets, channels, troughs, diffraction gratings and combinations thereof.

Claim 128. (Previously presented) The method according to claim **127**, wherein said at least one feature is a plurality of wells, wherein each member of said plurality of wells is fluidically isolated from the other members of said plurality of wells.

Claim 129. (Previously presented) The method according to claim **127**, wherein each member of said plurality of wells comprises a depression and at least one border, wherein said border extends vertically above said depression and said border comprises a compound which is a member selected from the group consisting of hydrophobic compounds, hydrophilic compounds and charged compounds.

Claim 130. (Previously presented) The method according to claim **121**, wherein said patterned surface anchors said mesogenic layer.

Claim 131. (Previously presented) The method according to claim **121**, wherein said self-assembled monolayer is formed from:

$$X^1Q_2C(CQ^1{}_2)_mZ^1(CQ^2{}_2)_nSH$$

wherein,

X^1 is a member selected from the group consisting of H, halogen and recognition moieties;

Q, Q^1 and Q^2 are independently members selected from the group consisting of H and halogen;

Z^1 is a member selected from the group consisting of —CQ_2—, —$CQ^1{}_2$—, —$CQ^2{}_2$—, —O—, —S—, —NR^4—, —C(O)NR^4 and R^4NC(O)—,

in which;

R^4 is a member selected from the group consisting of H, alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl and heterocyclic groups;

m is a number between 0 and 40; and

n is a number between 0 and 40.

Claim 132. (Previously presented) The method according to claim **121**, wherein said recognition moiety comprises a member selected from the group consisting of organic functional groups, metal chelates, organometallic compounds and combinations thereof.

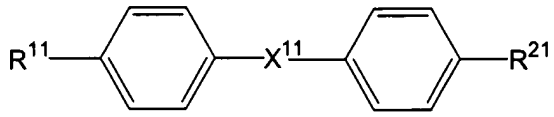
Claim 133. (Previously presented) The method according to claim **132**, wherein said organic functional group is a member selected from the group consisting of amines, carboxylic acids, drugs, chelating agents, crown ethers, cyclodextrins and combinations thereof.

Claim 134. (Previously presented) The method according to claim **132**, wherein said recognition moiety is biotin.

Claim 135. (Previously presented) The method according to claim **121**, wherein said recognition moiety is a biomolecule.

Claim 136. (Previously presented) The method according to claim **135**, wherein said biomolecule is a member selected from the group consisting of antibodies, nucleic acids, peptides, enzymes and receptors.

Claim 137. (Previously presented) The method according to claim **121**, wherein said mesogenic layer comprises:



wherein,

R^{11} and R^{21} are members independently selected from the group consisting of alkyl groups, lower alkyl, substituted alkyl groups, aryl groups, acyl groups, halogens, hydroxy, cyano, amino, alkoxy, alkylamino, acylamino, thioamido, acyloxy, aryloxy, aryloxyalkyl, mercapto, thia, aza, oxo, both saturated and unsaturated cyclic hydrocarbons, heterocycles, arylalkyl, substituted aryl, alkylhalo, acylamino, mercapto, substituted arylalkyl, heteroaryl, heteroarylalkyl, substituted heteroaryl, substituted heteroarylalkyl, substituted heterocyclic and heterocyclicalkyl; and

X^{11} is a member selected from the group consisting of —C==N—, -N==N(O)—, -C==N(O)—,—HC==CH—, —C≡C— and —OC(O)—.

Claim 138. (Previously presented) The method according to claim **123**, wherein said visually detecting detects a change in reflectance, transmission, absorbance, dispersion, diffraction, polarization and combinations thereof, of light impinging on said plurality of mesogens.

Claim 139. (Previously presented) The method according to claim **121**, wherein said mesogenic layer comprises a polymeric mesogen.

Claim 140. (Previously presented) The method according to claim **123**, wherein said patterned substrate is a member selected from a rubbed glass substrate and a rubbed organic polymer substrate.